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JULY 1973, No. 7

FISHING INFORMATION

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NATIONAL
MARINE
FISHERIES
SERVICE

OUTHWEST
FISHERIES
CENTER
LA JOLLA,
ALIFORNIA

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
SOUTHWEST FISHERIES CENTER
8604 LA JOLLA SHORES DRIVE - P. O. BOX 271
LA JOLLA, CALIFORNIA 92037

FISHING INFORMATION

JULY 1973, No. 7

B. J. Rothschild, Director, SOUTHWEST FISHERIES CENTER
I. Barrett, Deputy Director
F. Hester, Director, Honolulu Laboratory

PREFACE

This publication, Fishing Information, appears monthly and contains 1) fishery advisory information, 2) a narrative description of pertinent surface temperature conditions, 3) a narrative description of subsurface temperature structure for parts of the North Pacific, 4) charts of winds and pressures for the eastern North Pacific, 5) charts of sea surface temperature for the North Pacific and eastern tropical Pacific, and 6) charts of subsurface temperature structure in the eastern North Pacific.

A supplement to Fishing Information appears at 15-day intervals throughout the year. This is a chart of sea surface temperature (contoured at 2°F (1°C) intervals) from Baja California to Vancouver Island out to about 135°W. Special bulletins are published in conjunction with the 15-day sea surface temperature charts which include short-term projections of albacore distribution and locations of productive fishing areas, information on oceanographic and atmospheric conditions, and other information as is appropriate during the albacore fishing season.

L. E. Eber, Leader
Fishery Information Systems
Southwest Fisheries Center
La Jolla, California

Submitted for publication - August 16, 1973

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L. Eber (Figures 4 and 6), F. Miller (Figures 9 and 10)
J. Renner (Figures 1, 2, 3, 5, 7, and 8), J.F.T. Saur (Figures 11 and 12)
J.L. Squire (Figure 13)

TECHNICAL EDITOR:
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National Ocean Survey, Pacific Marine Center, Seattle, Washington
Pacific Environmental Institute, Fisheries Research Board of Canada, West Vancouver, British Columbia, by L. F. Giovando from observations by S. G. Westhaver at Langara Island Light; N. R. Wilson at Cape St. James Light; L. Collins at Kains Island Lightstation; O. A. Edwards at Amphitrite Point Light
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Fishing vessels, Antonina C., Bettie M., Bold Contender, Cheryl Marie, King Oscar, Lou Jean II, Lucky Strike, Mary Elizabeth, Mary S., Neptune, Pan Pacific, Polaris, Queen Mary, Trinidad, Saratoga, Venturous, Willa G.

Expendable bathythermograph observations are made by the mates of the S. S. Hawaiian Enterprise of Matson Navigation Co., and processed with assistance from the NMFS Environmental Group, Monterey: Project partially supported by National Science Foundation Grant AG-256.

New Long-term Mean Adopted and New SST Anomaly Chart Introduced

L. EBER

Two improvements in the presentation of sea surface temperature information are incorporated in this issue of Fishing Information. A new long-term mean data base for the 20-year period 1948-67 has been adopted in the preparation of the charts showing deviations of sea surface temperature from long-term means. Also, a new chart has been added which extends the sea surface temperature anomalies from the 180th meridian into the western North Pacific (Figure 6).

In the past, sea surface temperature deviations have been computed with reference to long-term mean charts in H. O. 225 for the eastern North Pacific and to both H. O. 225 and NAVOCEANO SP-123 for the eastern tropical Pacific. The data used for these two publications represent periods prior to 1943 and 1962, respectively.

The distribution and density of observations for the 1948-67 period is much better than earlier years, especially in areas of tight gradients and certain regions such as the Gulf of Alaska, and the new long-term mean better reflects the climatological changes that have taken place in ocean temperature over the past two decades. In addition, adoption of a common base period for long-term means will make the anomaly patterns between the different charts appearing in this publication more consistent.

The 1948-67 means are based on ship report data which were initially archived by the National Climatic Center, Asheville, North Carolina, copied and condensed into a compact format by the U. S. Navy Fleet Numerical Weather Central, Monterey, California and summarized by 1-degree quadrangles, by month, cooperatively by the NMFS Pacific Environmental Group at Monterey and the NMFS La Jolla Laboratory.

The long-term mean charts prepared from these summaries differ from those in H. O. 225. In order to provide continuity in the transition from one base reference period to another, a chart will be published each month for a year showing the difference between the long-term means of H. O. 225 and the 20-year means for 1948-67. Figure 8 in this issue is the first of 12 charts to be published in Fishing Information.

Sea Surface Temperature and Environmental Conditions

L. EBER AND F. MILLER

Eastern North Pacific

Seasonal warming of surface waters continued in July 1973 at a below-normal rate in most of the eastern North Pacific between latitudes 30° N and 50° N. Warming was somewhat greater than normal in the eastern portion of the Gulf of Alaska and in most of the area south of 30° N, west of longitude 125° W, but in most cases the warming was not sufficient to reverse anomalously cold surface temperature conditions observed in June. As the result of these variations in heating, sea surface temperatures in July were below normal nearly everywhere in the eastern North Pacific except west of longitude 165° W, between 25° N and 35° N, and in areas off Baja California out to about 150° W (Figure 5). The largest negative deviations from the long-term mean occurred in the vicinity of 45° N, between longitudes 150° W and 165° W, and exceeded 4° F (2.2° C).

Mean sea level pressures were below normal in the central portion of the eastern North Pacific, particularly to the north of 40° N, between longitudes 145° W and 154° W, where departures from the long-term mean were as much as 4 millibars or more (Figures 1 and 2). The area of maximum negative pressure deviations coincides closely with the area of maximum negative sea surface temperature deviations.

High pressure persisted to the east of 140° W, north of latitude 40° N and in the region west of 165° W. The mean resultant winds associated with this pressure distribution were more northerly than usual in the vicinity of 35° N, 160° -165° W and more southerly than usual in the eastern portion of the Gulf of Alaska. This anomalous distribution of resultant winds corresponds fairly well with the pattern of below-normal and above-normal temperature increases from June to July.

Western North Pacific

Sea surface temperatures west of the 180th meridian appear to be more evenly distributed around normal values than in the eastern North Pacific. The area of positive deviations greater than 2° F (1.1° C), shown between 175° W and 180° W at 35° N in Figure 5, extends westward to about 175° E (Figure 6). Positive temperature deviations of 2° F (1.1° C) or greater also occurred off Hokkaido and northern Honshu. Sea temperatures were below normal by 2° F (1.1° C) or more between longitudes 140° E and 160° E along 30° N.

Eastern Tropical Pacific

From June to July the Peru Current and its equatorial extension usually becomes colder by 2° -3° F (1.1° -1.7° C). For the past 3 months negative anomalies of 2° -4° F (1.1° -2.2° C) have persisted along the coast of South America and along the equator (Figure 10) westward to 170° W. As a result the equatorial frontal boundary has become very intense especially between the Galapagos Islands and Ecuador. Warm equatorial water north of this frontal boundary has helped to intensify the north-south temperature gradient east of 90° W (Figure 9).

In the eastern tropical Pacific north of 10° N negative anomalies extend northwestward parallel to the coast of Mexico as a result of high surface winds and extensive cloudiness associated with several tropical storms during June. Tropical storm activity continued in July along similar paths and left a trail of cold water from 10° N, 95° W to 20° N, 120° W, as shown in Figure 10. The cold anomalies off Baja California were associated with extensive low stratus clouds which persisted along the west coast.

Subsurface Temperature Structure in the Northeast Pacific Ocean

J.F.T. SAUR

The two sections of subsurface temperature observations, between Hawaii and San Francisco, Figures 11 and 12, were made during the first and third weeks in July 1973.

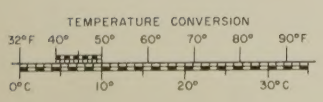
At the beginning of the month the surface layer had a relatively uniform depth of about 30 meters throughout the section. At the middle of the month between 134° and 138°W the decrease in temperature began at the surface, as shown by the vertical temperature profile for Station 7 in Figure 12. Elsewhere along the section the bottom of the surface layer was generally somewhat deeper than at the first of the month and varied between 30 and 50 meters.

From mid-June to mid-July the average temperature of the upper 100 meters increased by up to 2.0-2.5° C throughout most of the section. Most of this increase occurred in the first half of July. Although the net heat transfer to the ocean generally reaches its maximum in July, computed transfer based on meteorological observations would account for only about 50-70 percent of the rise, so that some advection of heat into the area must have occurred.

Evidence of a narrow band of upwelling off San Francisco appeared in the mid-month section. The isotherms sloped sharply upward toward the coast and, at Station 1, the surface temperature decreased by about 2° C and the salinity increased by nearly 0.4 parts per thousand.

The boundaries between the California Current region and the transition zone and between the transition zone and eastern North Pacific Central waters became less distinct. The outer boundary of the California Current region appears to lie about 500 nautical miles from the coast, in the vicinity of Station 6. The boundary between the transition zone and the eastern North Pacific Central water appears to be near Station 10, about 139°W. The irregular maximum-minimum structure between depths of 40 and 100 meters in the vertical profiles, which is characteristic of the transition zone, occurs at Stations 7 through 10 (134° through 139°W, respectively) in Figure 12. However, the surface salinities begin to rise from 34-35 parts per thousand at Station 9 and there is a marked sub-surface thermal boundary at 138°W between Stations 9 and 10 indicated by the nearly vertical westward descent of the 16°, 17°, and 18° C isotherms from near 40 meters to below 100 meters.

The bands of temperature between 16° and 19° C have been shaded in Figures 11 and 12, as in the June issue of Fishing Information. The best albacore fishing is often associated with shallow surface layers in this range and we noted in June that such a shallow surface layer had formed and was moving eastward through the transition zone. This eastward movement continued so that in early July the temperature range occurred at the surface between 250 miles and 400 miles from the coast. By mid-July it had narrowed somewhat and at the surface lay in the California Current region between 150 and 400 miles from the coast westward. This layer remained below the surface at depths somewhat less than 100 meters to a distance of about 800 miles from the coast. Under typical conditions we would expect the surface position of this temperature zone to change very little through August and remain in the California Current region.



Airborne Infrared Sea Surface Temperature Survey Off San Diego

J. L. SQUIRE

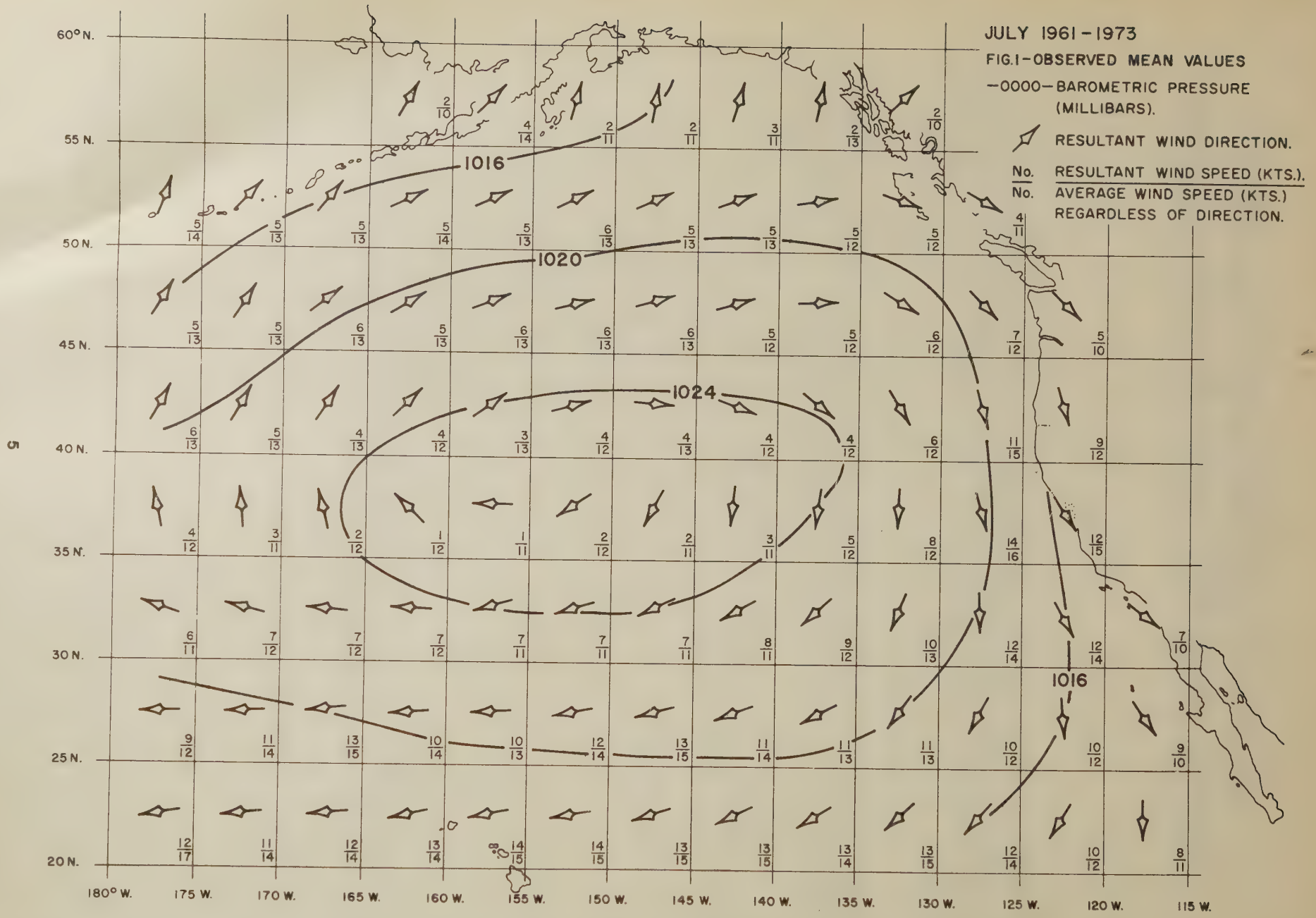
Sea surface temperature surveys are being conducted each week, April through October for the important fishing areas off San Diego. These surveys are part of a cooperative program between the NMFS La Jolla Laboratory and the California Department of Fish and Game to evaluate the effects of temperature changes on the distribution of important game fish species such as yellowtail, bonito, barracuda, white sea bass and other species entering the sport catch.

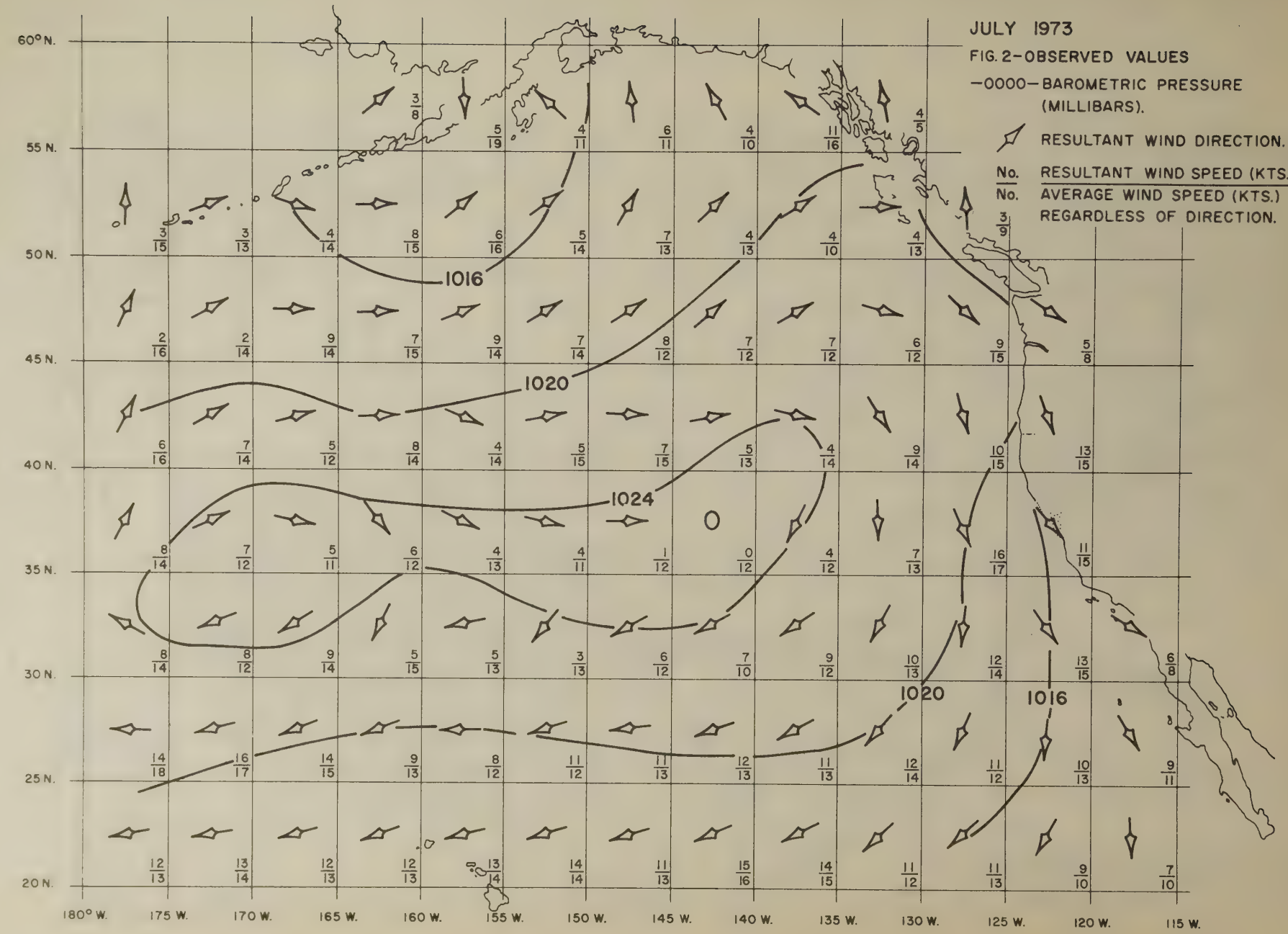
The first series of monthly charts appeared in the April issue of Fishing Information.

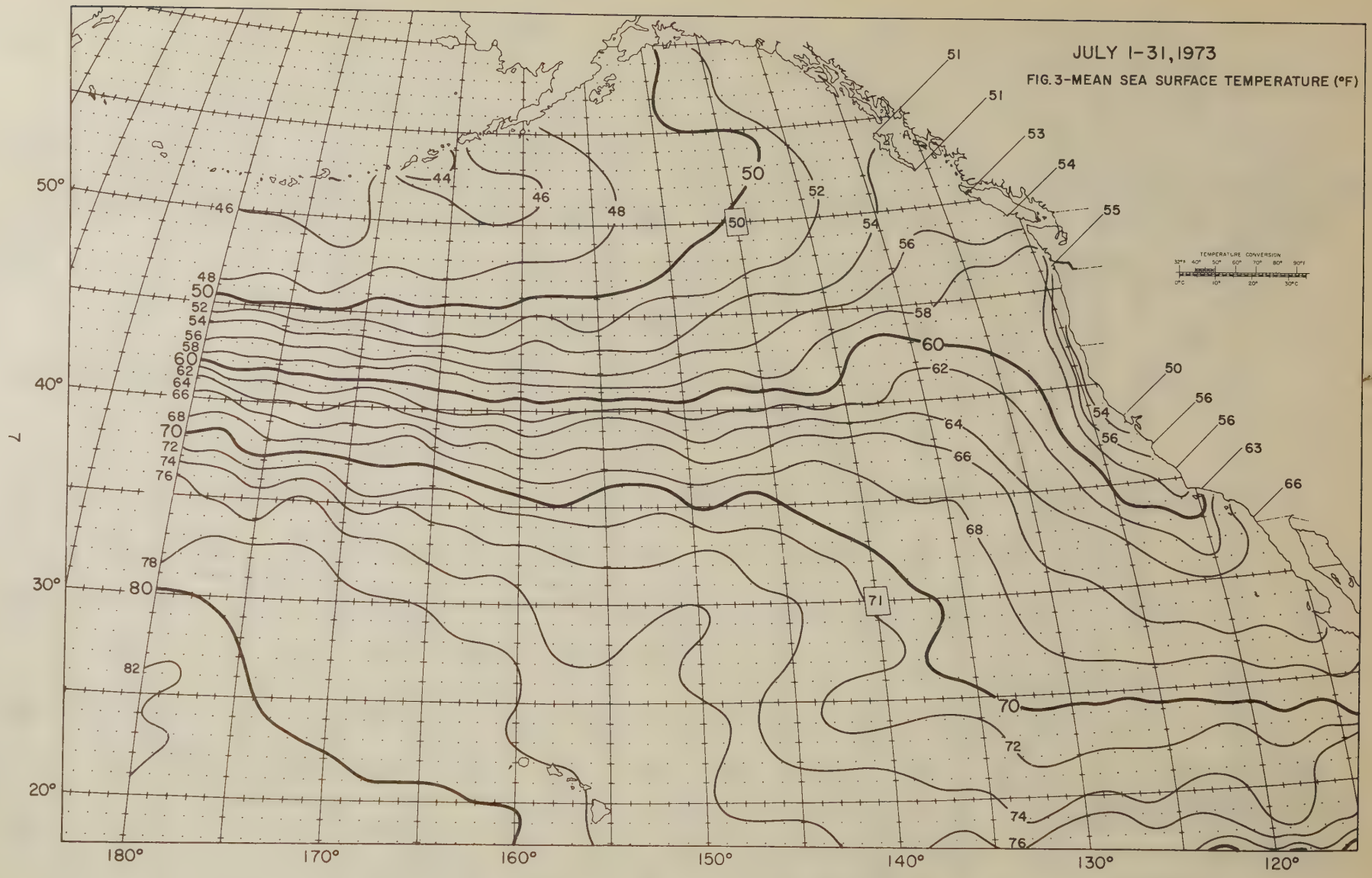
During June 1973 four survey flights were conducted and the approximate temperatures at the major fishing locations in ° F are shown below (for conversion to ° C consult the charts). 1972 temperature data for the corresponding periods are shown in parenthesis (64° etc.). The difference between the 1972 measurement and that observed in 1973 is given below the 1973 temperature.

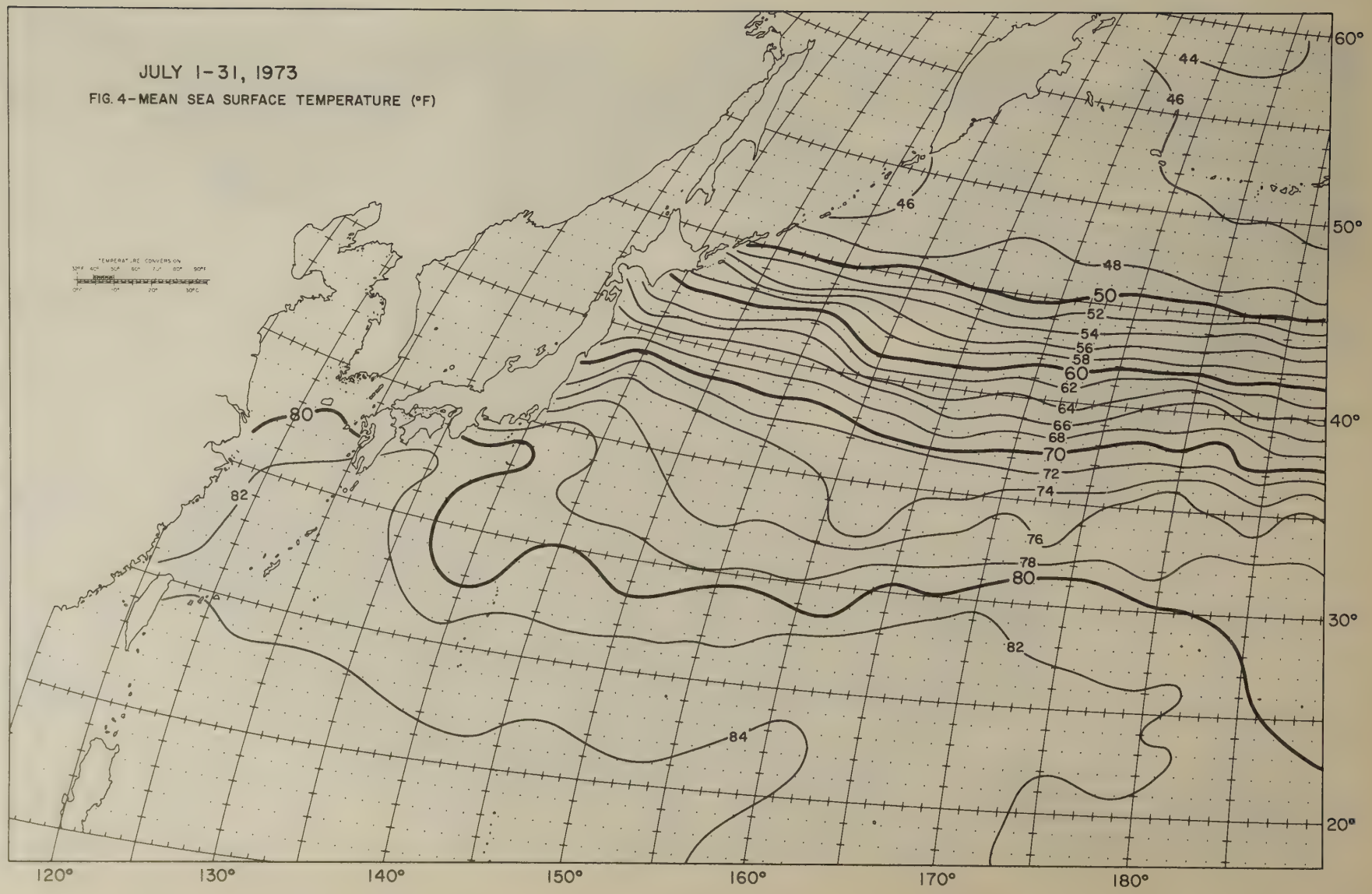
Survey Date	La Jolla Kelp Area	Point Loma Kelp Area	Tijuana Kelp	Coronado Islands
	1973 1972	1973 1972	1973 1972	1973 1972
July 2, 1973	66° (67°) -1°	64° (67°) -3°	62° (64°) -2°	64° (67°) -3°
July 12, 1973	64° (65°) -1°	65° (68°) -3°	63° (68°) -5°	64° (69°) -5°
July 17, 1973	67° (73°) -6°	65° (72°) -7°	64° (70°) -6°	65° (70°) -5°
July 26, 1973	68° (69°) -1°	68° (67°) +1°	65° (66°) -1°	67° (68°) -1°

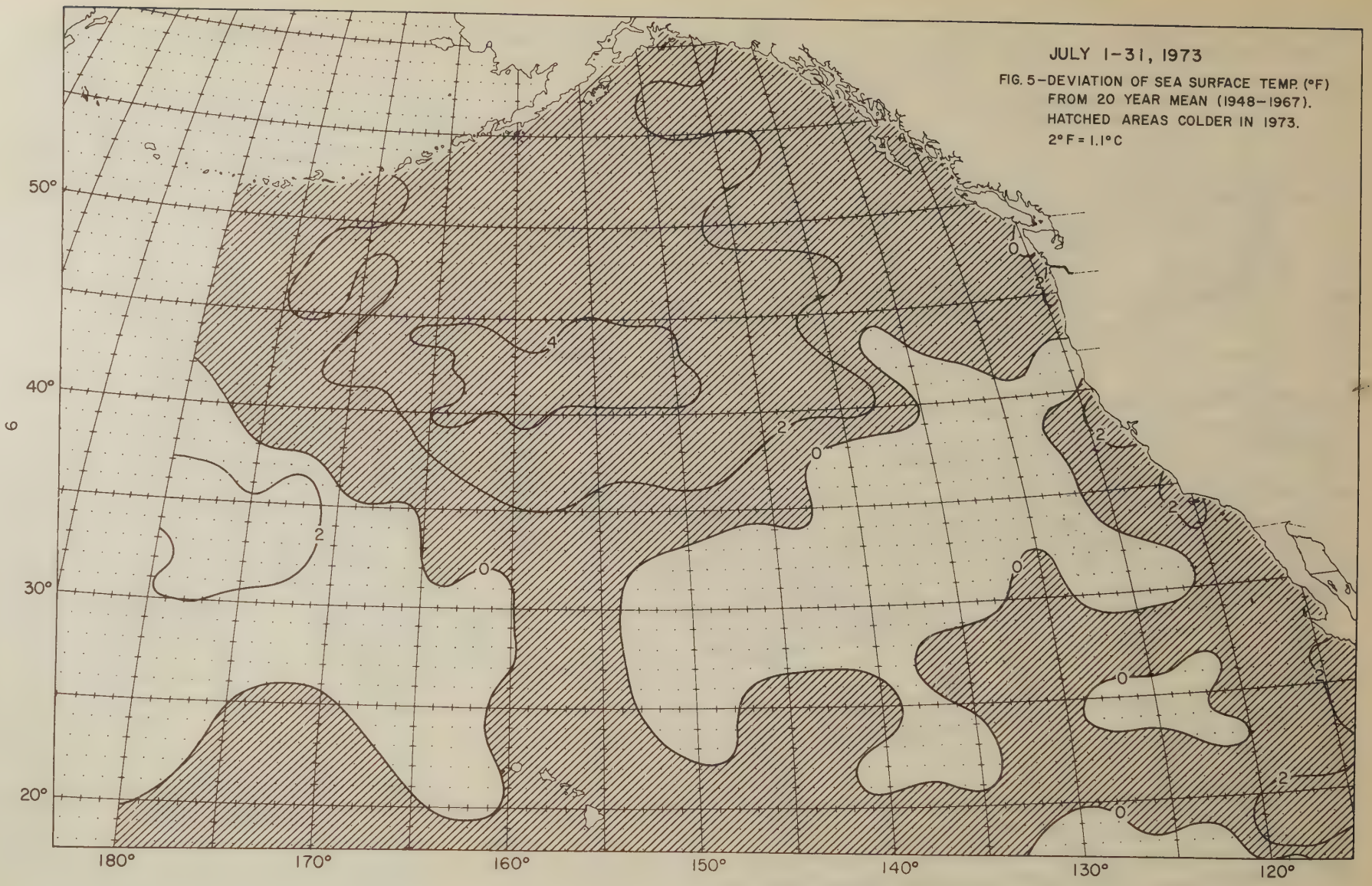
Sea surface temperatures increased by about 3° F during the month. Temperatures were considerably below those experienced during the first half of July 1972; however, if compared to average temperatures from 1963-68, obtained by airborne surveys, July 1973 temperatures at mid-month were about normal.

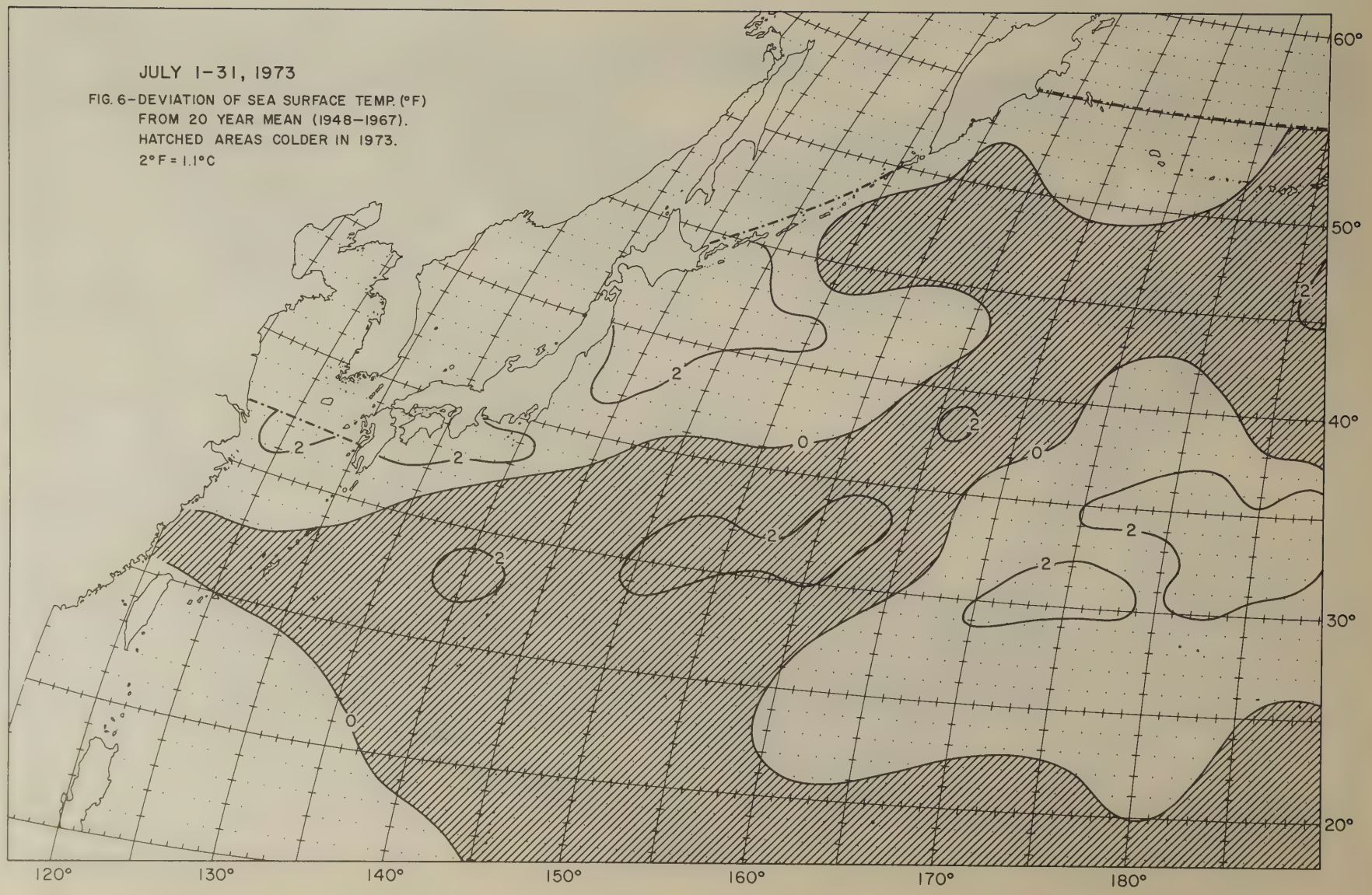

JULY 1961 - 1973
FIG.1 - OBSERVED MEAN VALUES
—0000— BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.).
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1016
1020
1024
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.

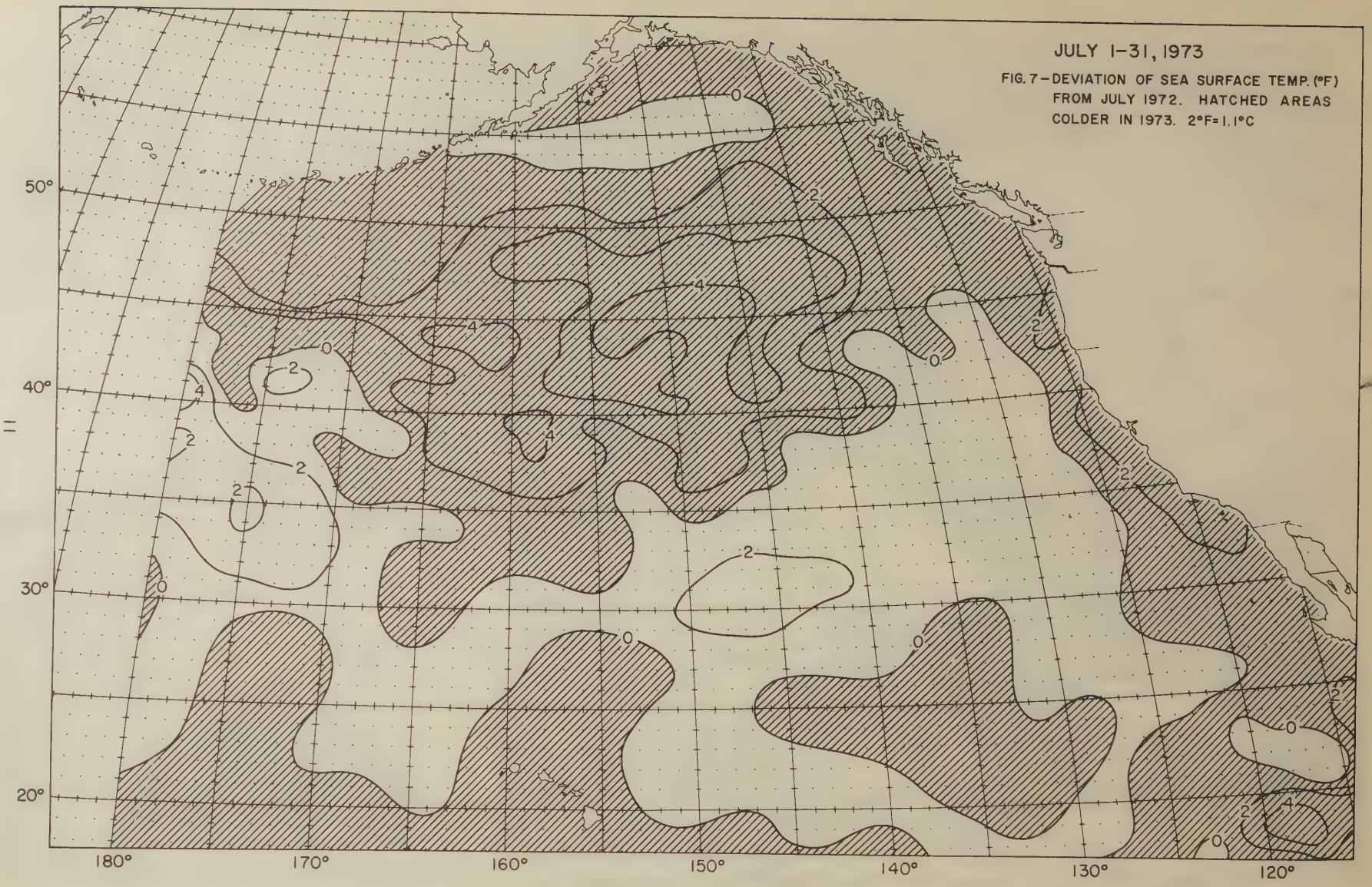

JULY 1973
FIG. 2-OBSERVED VALUES
—0000— BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.).
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1016
1020
1024
1020
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.

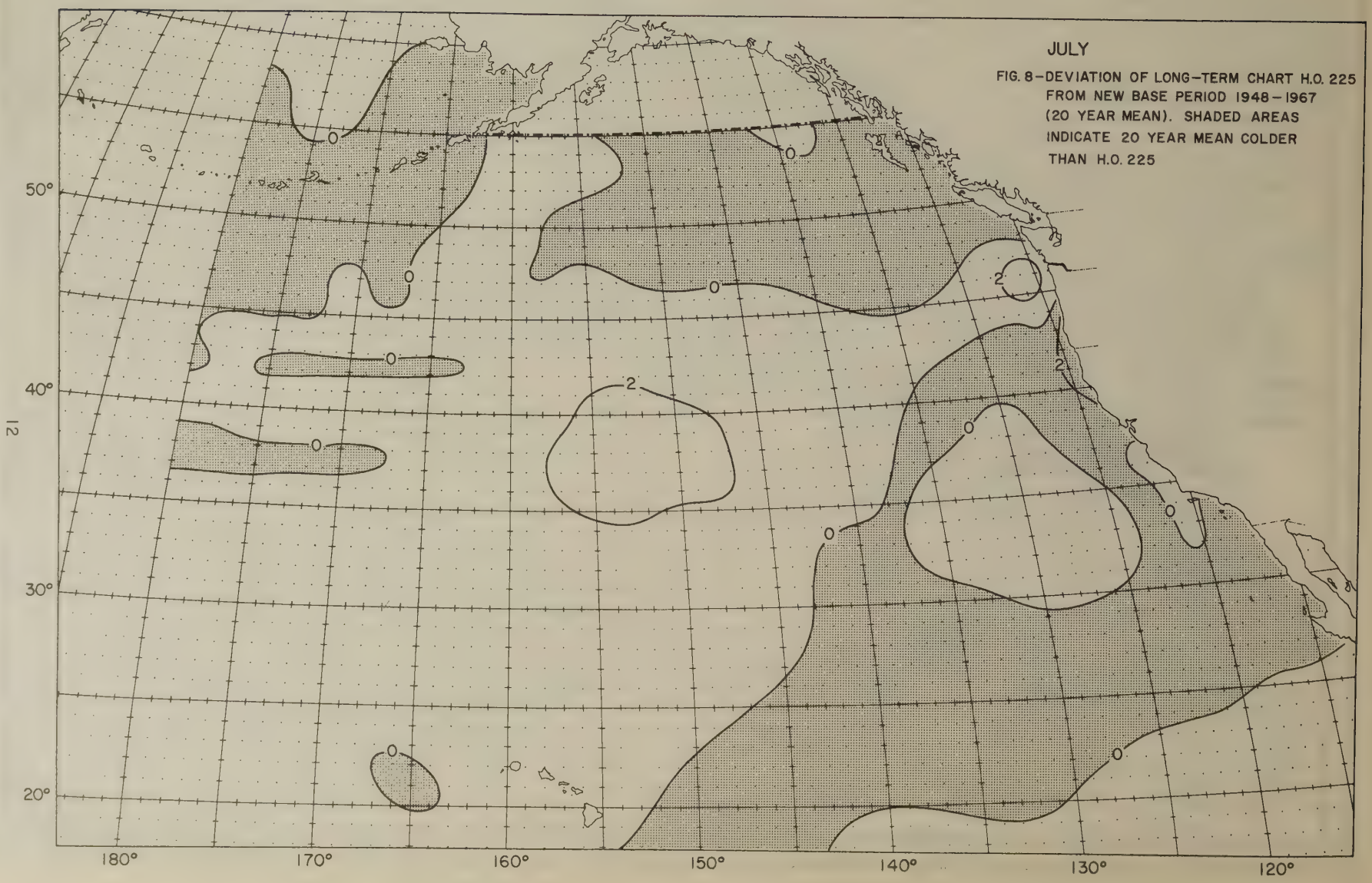

JULY 1-31, 1973
FIG. 3-MEAN SEA SURFACE TEMPERATURE (°F)
TEMPERATURE CONVERSION
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°

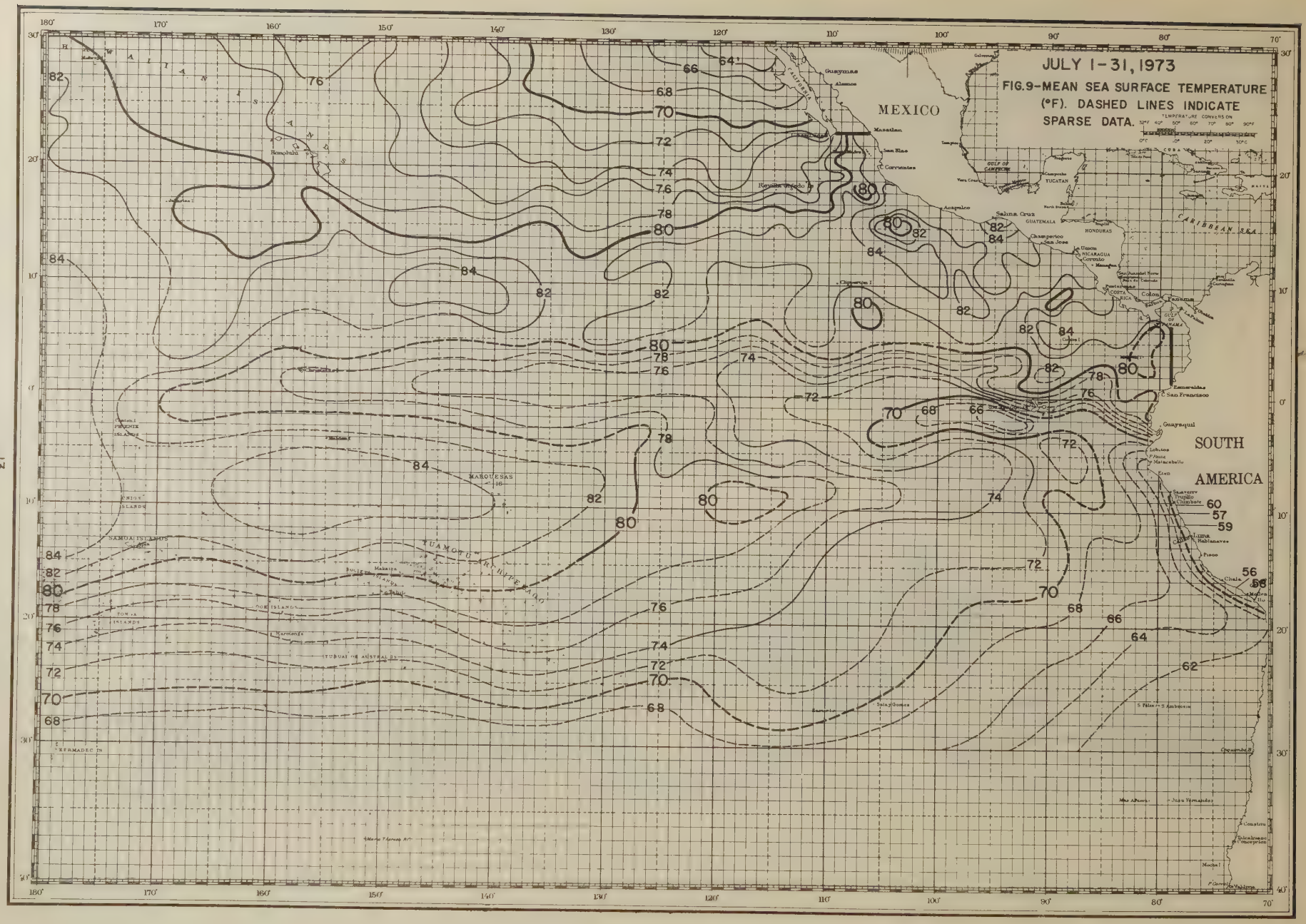

JULY 1-31, 1973
FIG. 4-MEAN SEA SURFACE TEMPERATURE (°F)
44
46
46
48
50
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
80
82
82
84
60°
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°

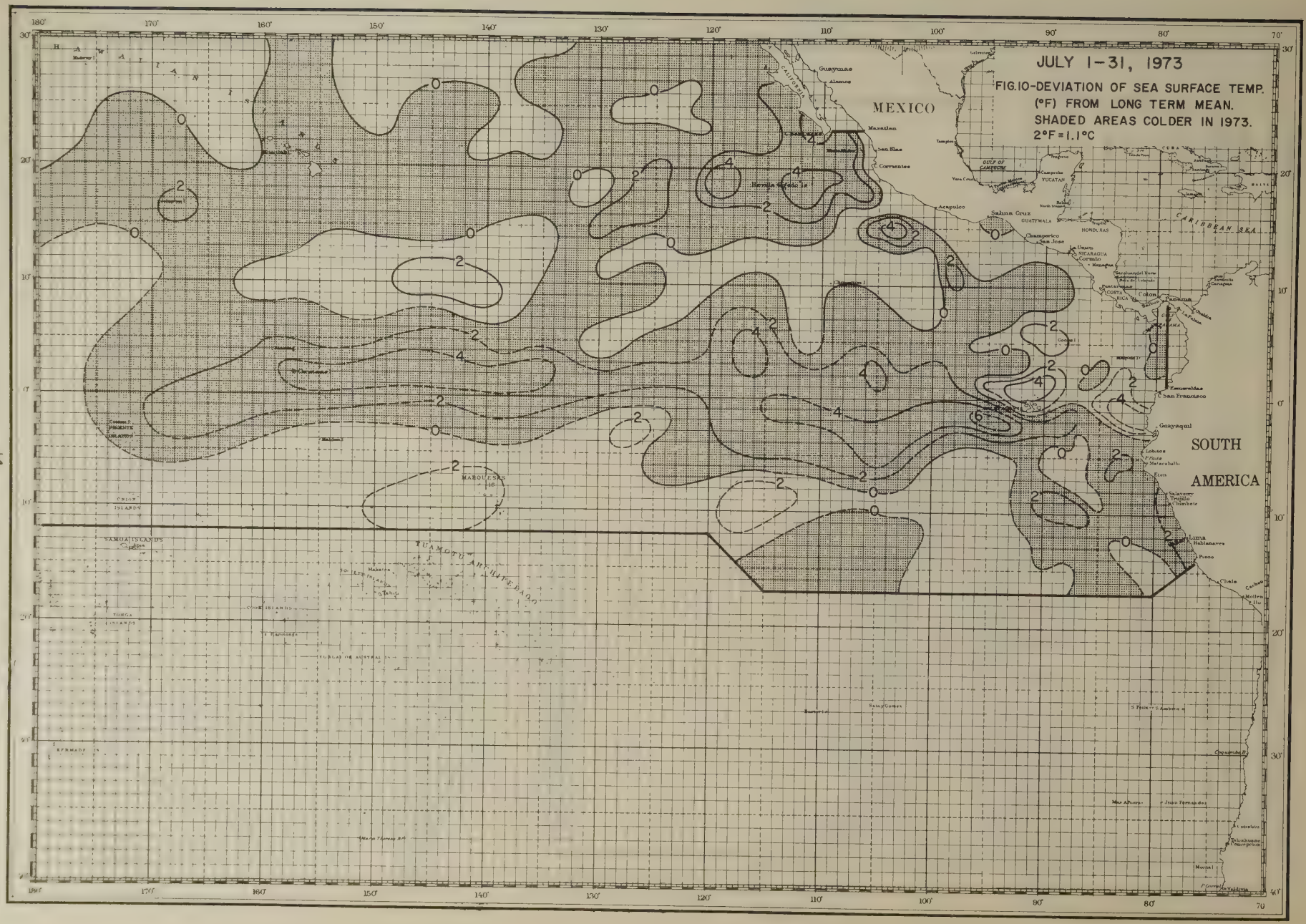

JULY 1-31, 1973
FIG. 5-DEVIATION OF SEA SURFACE TEMP. (°F) FROM 20 YEAR MEAN (1948-1967). HATCHED AREAS COLDER IN 1973.
2° F = 1.1° C
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
4
2
0
-2


JULY 1-31, 1973
FIG. 6-DEVIATION OF SEA SURFACE TEMP. (°F)
FROM 20 YEAR MEAN (1948-1967).
HATCHED AREAS COLDER IN 1973.
2°F = 1.1°C
60°
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°
2
0


JULY 1-31, 1973
FIG. 7 - DEVIATION OF SEA SURFACE TEMP. (°F) FROM JULY 1972. HATCHED AREAS COLDER IN 1973. 2°F = 1.1°C
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°

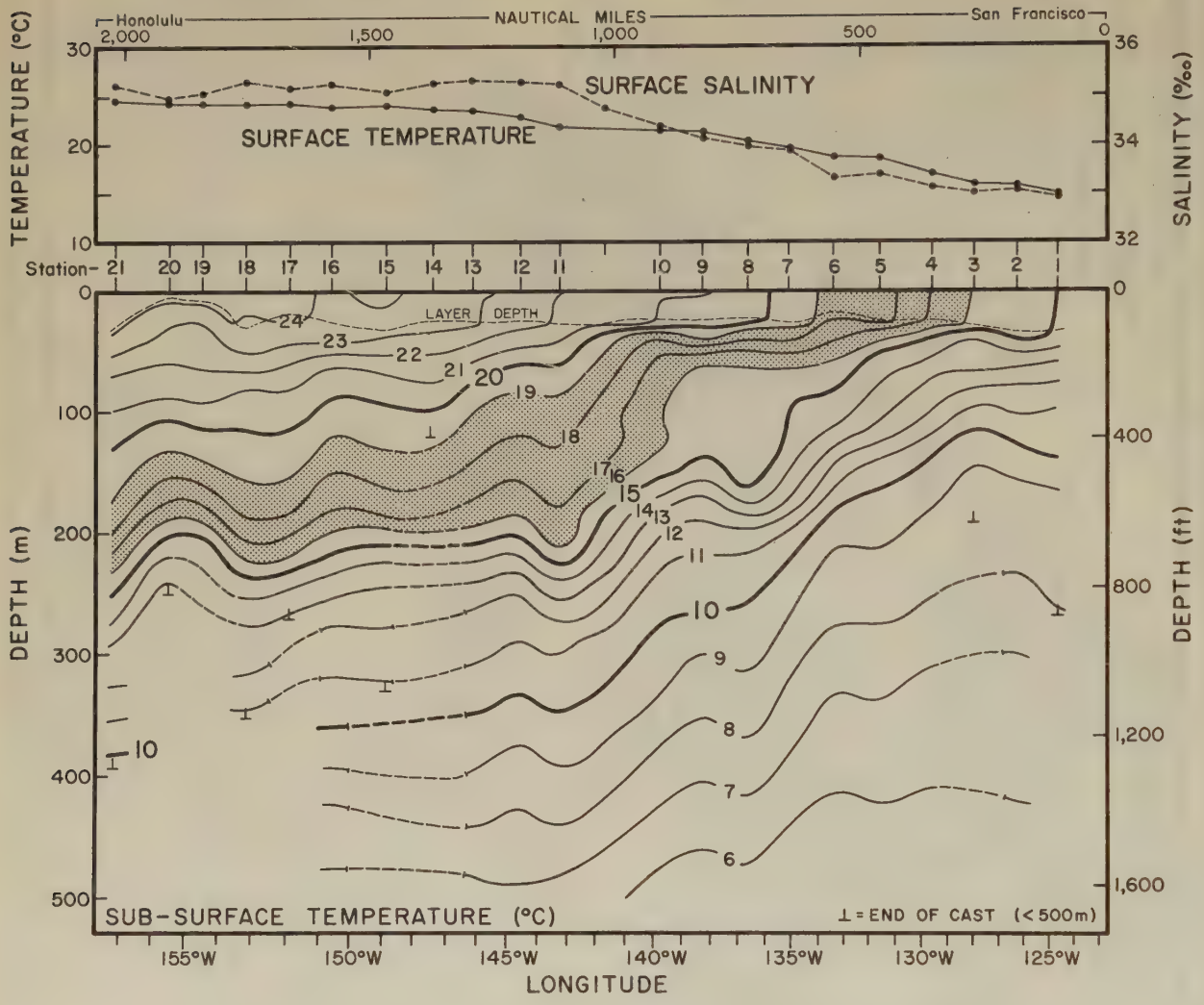

JULY
FIG. 8–DEVIATION OF LONG–TERM CHART H.O. 225 FROM NEW BASE PERIOD 1948–1967 (20 YEAR MEAN). SHADED AREAS INDICATE 20 YEAR MEAN COLDER THAN H.O. 225
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
0
2

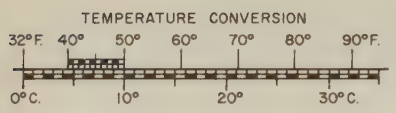

JULY 1-31, 1973
FIG.9-MEAN SEA SURFACE TEMPERATURE (°F). DASHED LINES INDICATE SPARSE DATA.
MEXICO
SOUTH AMERICA
HAWAIIAN ISLANDS
MARQUESAS
SAMOA ISLANDS
TUAMOTU ARCHIPELAGO
TONGA ISLANDS
CARIBBEAN SEA
GULF OF CALIFORNIA
GULF OF PANAMA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
Honolulu
Acapulco
Salina Cruz
Guaymas
Mazatlan
San Blas
Corrientes
Manzanillo
Champerico
San Jose
Corinto
Balboa
Colon
Panama
Esmeraldas
San Francisco
Guayaquil
Salaverry
Trujillo
Chimbote
Lima
Callao
Pisco
Chala
Mollendo
Arica
Iquique
Antofagasta
Coquimbo
Valparaiso
Concepcion
Talcahuano
Constitucion
Juan Fernandez
Mas Afuera
Mas Tierra
Clipperton I.
Cocos I.
PENRHYN ISLANDS
PENRYN ISLANDS
MANIHIKI
RAKAHANGA
PUKAPUKA
NORTH ISLANDS
TUBUAI OR AUSTRAL IS.
RAIVAVAE
RAPA
RURUTU
TUBUAI
MANGAIA
RIMATARA
RURUTU
MAUKE
MITIARO
ATIU
MANUAE
TAHITI
MOOREA
MAIAO
HUAHINE
RAIATEA
TAHAA
BORA BORA
MAUPITI
TUPAI
PALMERSTON I.
NIUE I.
SUWARROW I.
NASSAU I.
FANNING I.
WASHINGTON I.
PENRHYN I.
MANIHIKI I.
RAKAHANGA I.
PUKAPUKA I.
NORTH ISLANDS
TONGA ISLANDS
Marcus I.
Malden I.
Starbuck I.
Jarvis I.
Palmyra I.
Johnston I.
Sand I.
Midway Is.
Wake I.
Enderbury I.
Canton I.
Phoenix Islands
Samoa Islands
Tutuila
Upolu
Savaii
Manua
Rose I.
Swains I.
Fakaofo
Nukunonu
Atafu
Nukuhiva
Hivaoa
Tahuata
Fatuhiva
Ua Huka
Ua Pou
Nuku Hiva
Hiva Oa
Tahuata
Fatu H

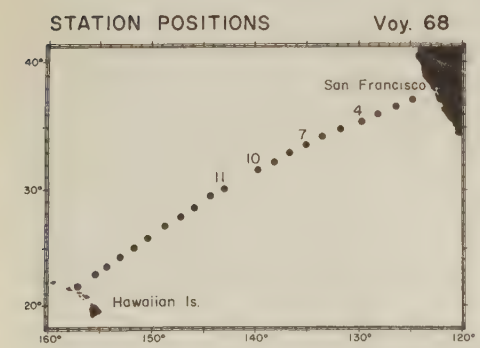

JULY 1-31, 1973
FIG.10-DEVIATION OF SEA SURFACE TEMP. (°F) FROM LONG TERM MEAN.
SHADED AREAS COLDER IN 1973.
2°F = 1.1°C
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
YUCATAN
GULF OF CALIFORNIA
Guaymas
Mazatlan
San Blas
Corrientes
Acapulco
Salina Cruz
Champerico
San Jose
Corinto
Panama
Buenaventura
San Francisco
Guayaquil
Lobitos
Salaverry
Trujillo
Chimbote
Lima
Callao
Pisco
Chala
Arica
Iquique
Antofagasta
Coquimbo
Valparaiso
Juan Fernandez
Mas Afuera
Mas Tierra
Easter I.
Pascua
MARQUESAS
TUAMOTU ARCHIPELAGO
SOCIETY ISLANDS
Papeete
Tahiti
Makatea
COOK ISLANDS
TONGA ISLANDS
SAMOA ISLANDS
UNION ISLANDS
PHOENIX ISLANDS
TOKELAU ISLANDS
NEW HEBRIDES
NEW CALEDONIA
NORFOLK I.
KERMADEC IS.
Malden I.
Caroline I.
Flint I.
Christmas I.
Hawaiian Is.
Honolulu
Midway I.
Wake I.
Johnston I.
Howland I.
Baker I.
Jarvis I.
Palmyra I.
Canton I.
Enderbury I.
Gilbert Is.
Ellice Is.
Fanning I.
Penrhyn I.
Suwarrow I.
Rakahanga I.
Manihiki I.
Nassau I.
Penrhyn I.
Pukapuka I.
Rose I.
Swains I.
Malden I.
Starbuck I.
Vostok I.
Flint I.
Caroline I.
Christmas I.
Line Is.
Marshall Is

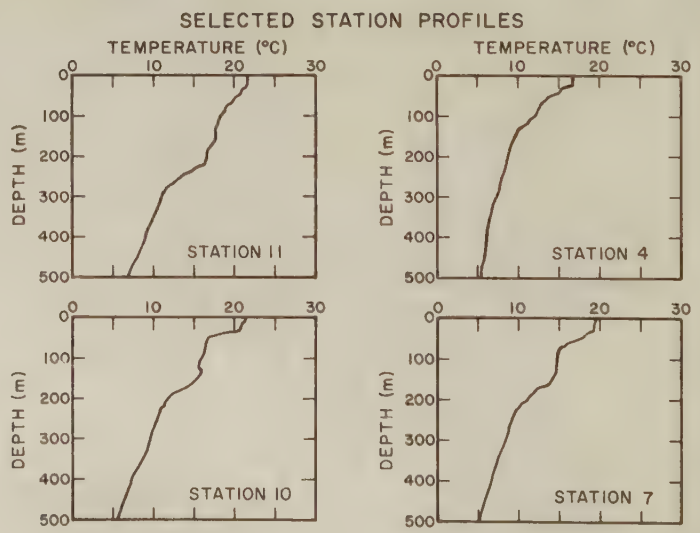
JULY 1-5, 1973
SS HAWAIIAN ENTERPRISE, Voyage 68

FIGURE 11



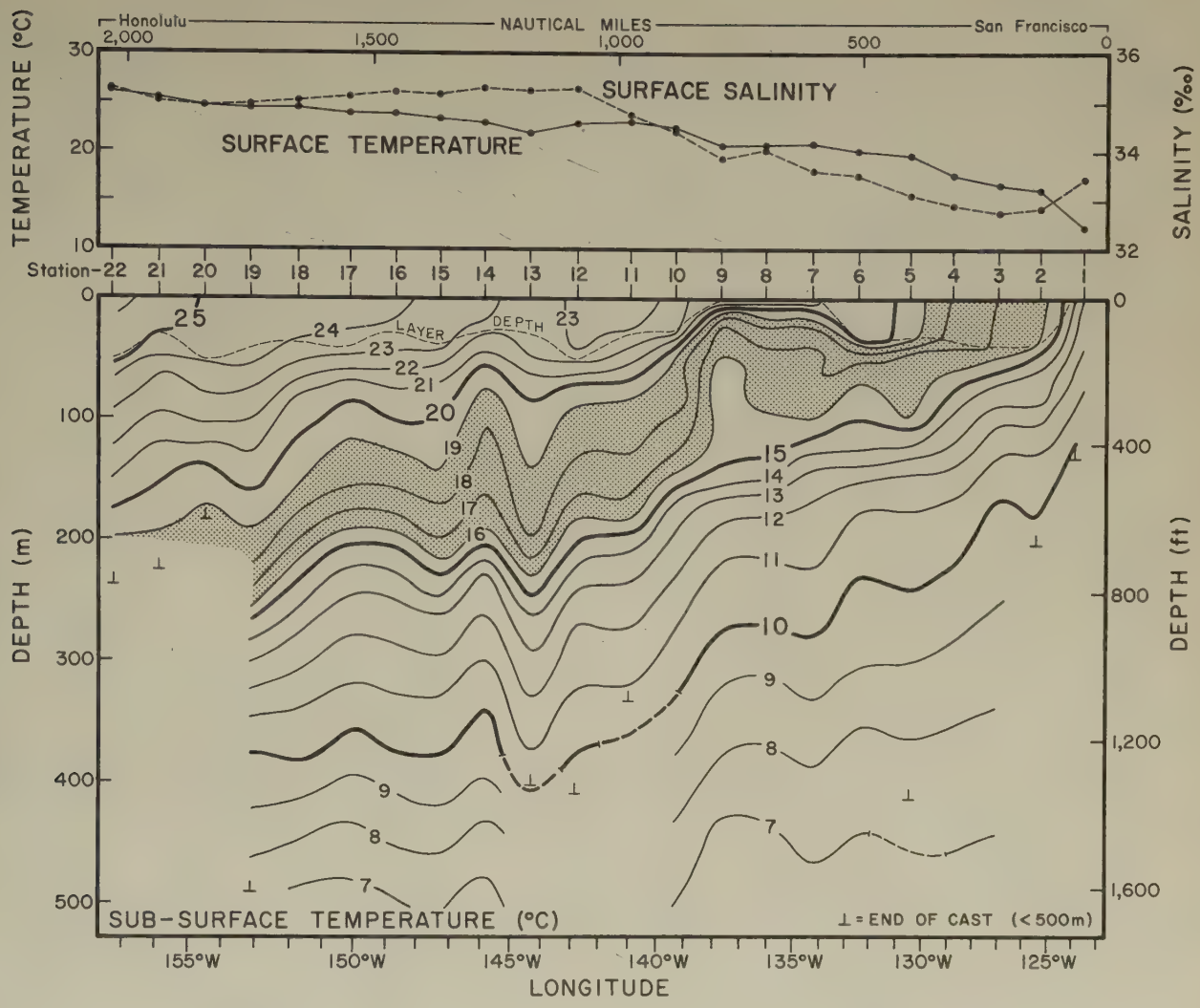


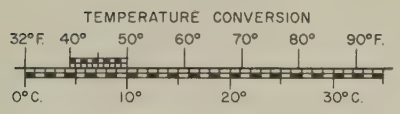


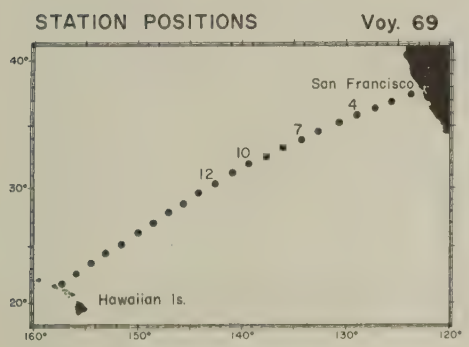


JULY 14 – 18, 1973
SS HAWAIIAN ENTERPRISE, Voyage 69

FIGURE 12







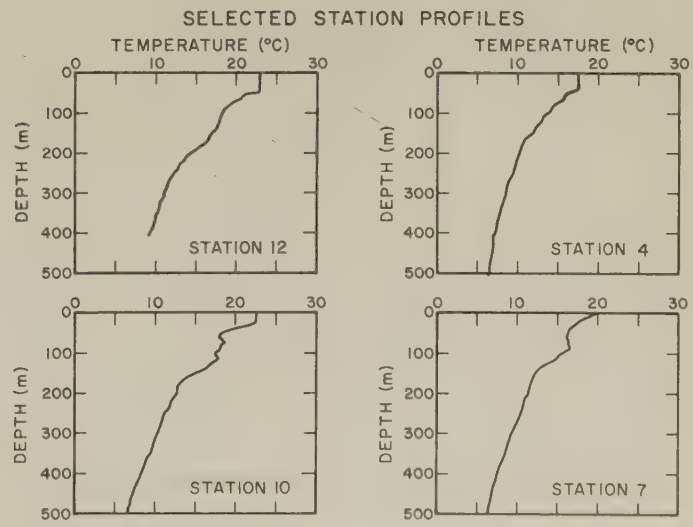
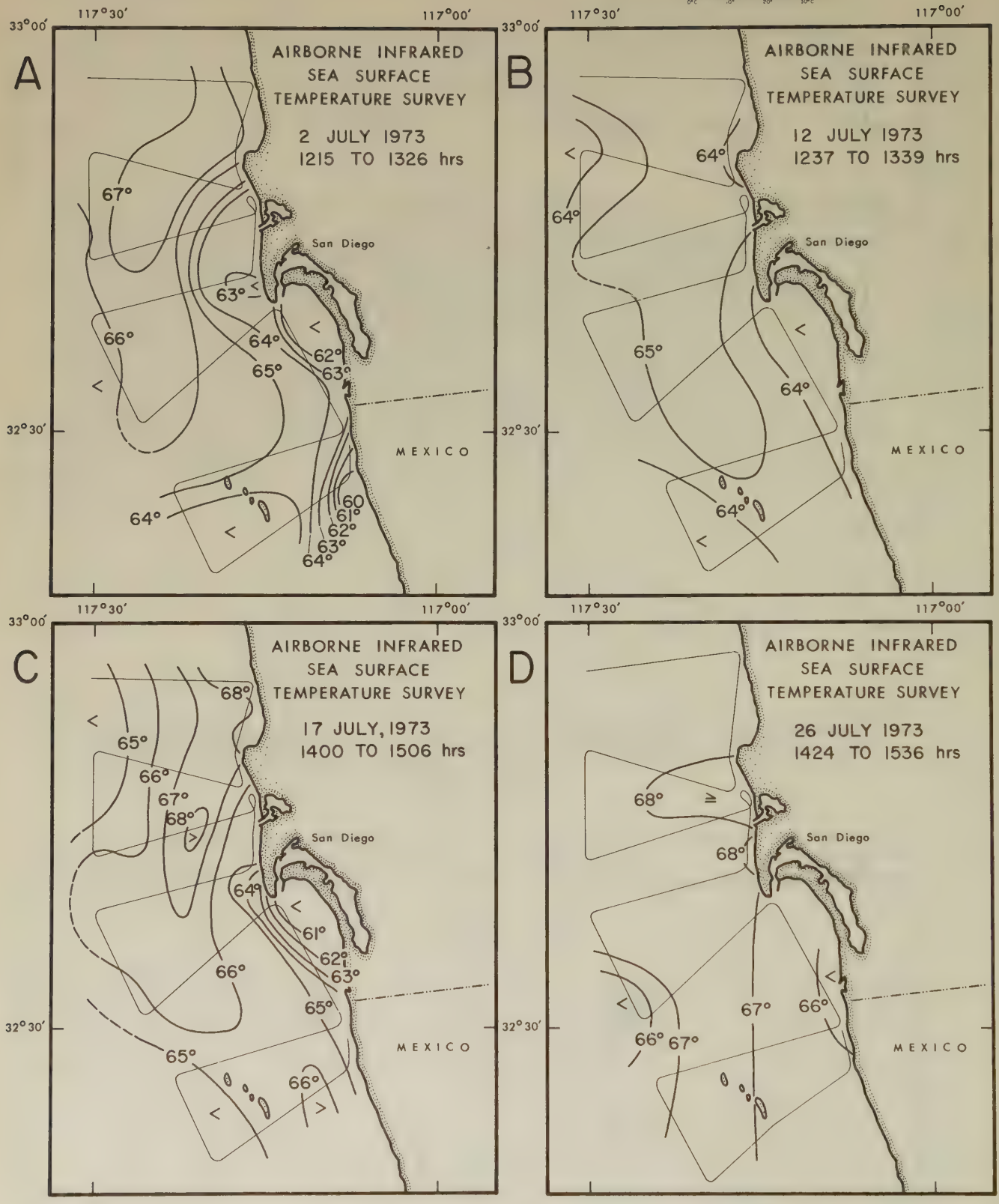
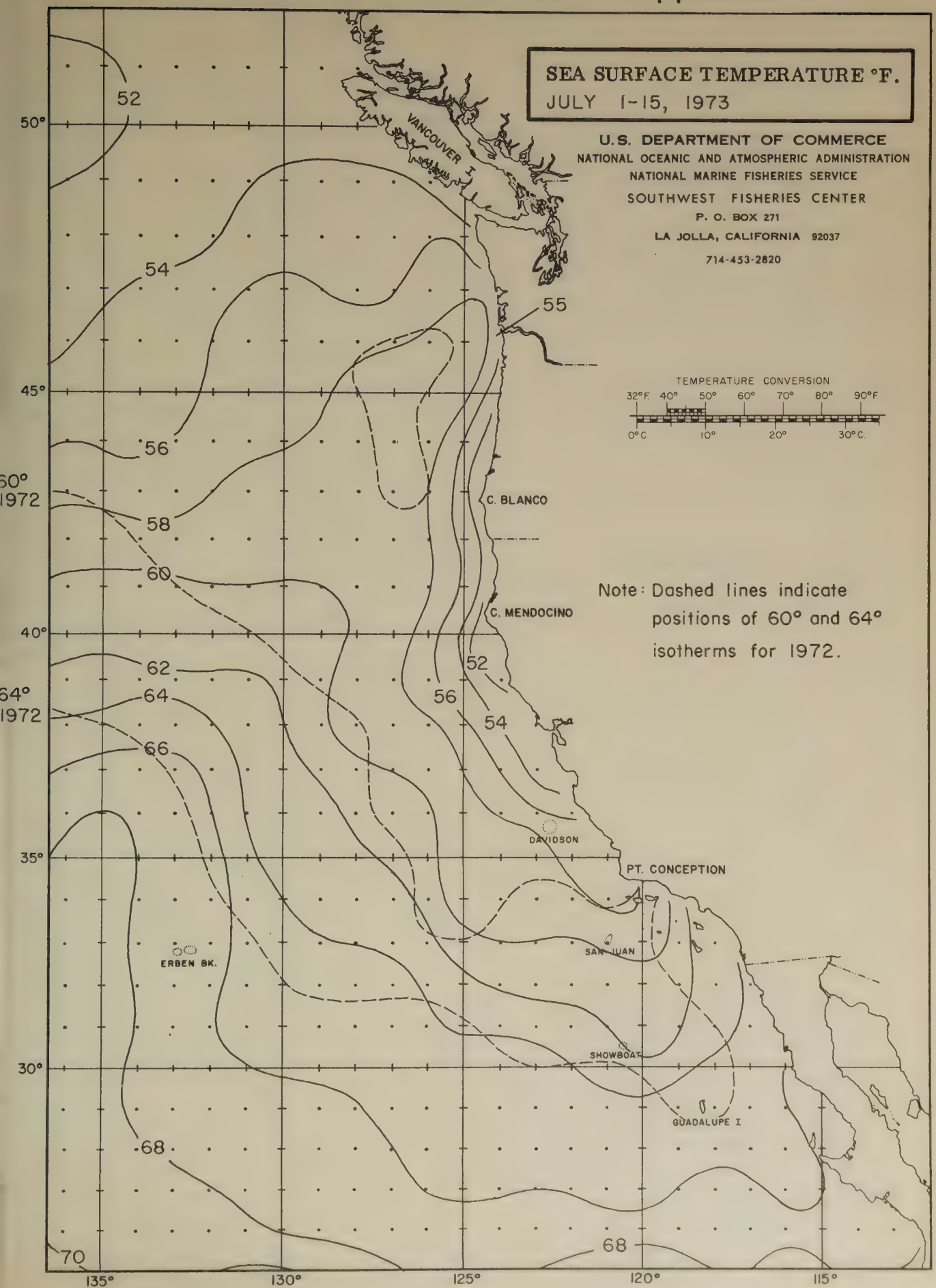


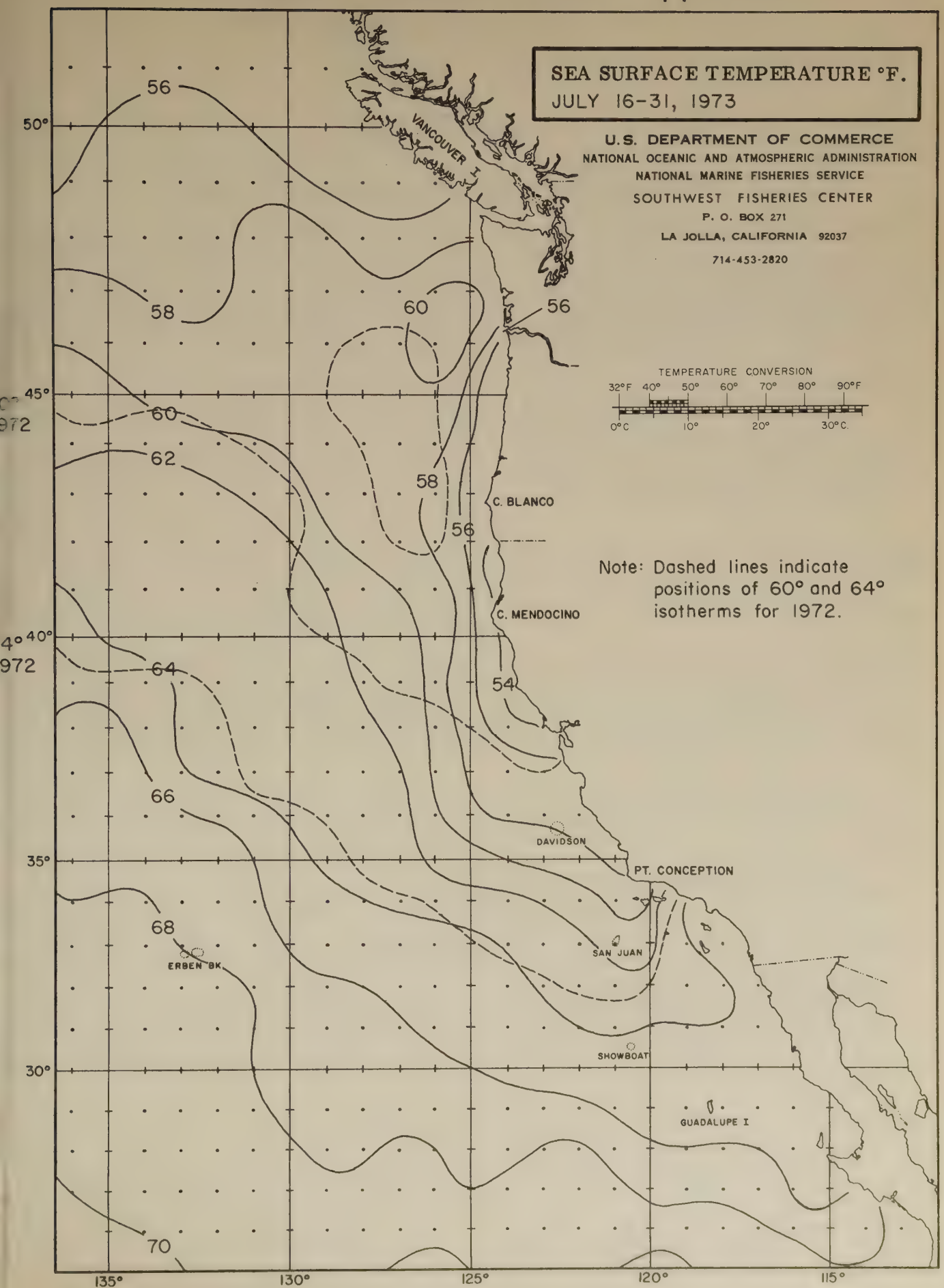
FIGURE 13—JULY 1973



FISHING INFORMATION – supplement



FISHING INFORMATION – supplement



UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
La Jolla, California 92037

FISHING INFORMATION
BULLETIN NO. 73-3

ALBACORE RESEARCH CHARTER BOATS NEARING COMPLETION OF WORK

Only a few boats have fished for albacore thus far this season, however, reports indicate that many fishermen are planning tart fishing shortly after the July 4 holiday.

The small fleet of jig boats fishing in the offshore area between 136° to 141°W, 34° to 36°N had several good days of fishing ing the past 2 weeks, with averages as high as 250 fish on June 21. However, fishing became spotty and by June 27 most of the ts sailed from the offshore area toward the vicinity about 50 miles southwest of the "rock pile" off Crescent City where small hes of 11 to 12 pound fish were reported on June 22 and again on June 26. During the June 30-July 1 weekend the boats that had n fishing off northern California were returning to port because of poor catches and sloppy weather.

The four AFRF chartered jig boats which left San Diego on May 10 returned to port on June 21 and 22. These boats departed m the offshore area at about 135°30W, 30° to 35°N on June 14 and fished shoreward toward San Diego in 58° to 68°F (14.4° to C) water. They caught small numbers of mixed size fish, but only in the area outside 130°W.

The two jig boats and two bait boats on the second AFRF charter worked between 31° to 36°N, 140° to 124°30W during the t 2 weeks. Scores by these boats have ranged from 0 to 225 fish a day on 5 to 30 pound fish with best catches near 137° to 139°W. four boats fished mainly in 62° to 68°F (16.7° to 20°C) water; however, the bait boats did not have much success using poles. pm June 15-22 these boats were in the vicinity of 33°30' to 35°15'N, 130° to 140°W, but headed toward San Diego on June 23. As h the earlier chartered boats, albacore were not caught inside of about 130°W.

The third set of chartered jig boats left Astoria, Oregon on June 17 and headed westward along 46°30'N then southward along ° to 136°W. Albacore were not caught until the boats reached an area about 42° to 43°15'N, 134°45 to 135°15'W in 56°F (13.3°C) er on June 22. Since that date small quantities of albacore have been caught almost daily between 38° to 41°N, 129°30' to 138°W water temperatures of 58° to 62°F (14.4° to 16.7°C). High catch by these boats was 64 fish on June 28 near 40°N, 130'W. Un- e fish being caught offshore southern California, these fish are mainly in the 11 to 14 pound range. As of July 1 the AFRF charter ssels have caught 10,361 fish of which 1581 have been tagged and released.

The NMFS R/V David Starr Jordan has conducted oceanographic research operations in the offshore area in conjunction with vessels on charter to the AFRF. The Jordan found major oceanic boundaries between north Pacific and central Pacific waters l preliminary results indicate that best albacore catches were taken in the vicinity of the boundaries. The Jordan will return to Diego about July 6. Daily broadcasts of albacore fishing information prepared by the NMFS La Jolla Laboratory will commence July 9. A schedule of stations, times and frequencies was given in the May issue of Fishing Information and albacore Fish Bul- in no. 1. The F/V Argo sailed from Astoria on July 1 for a 9-day trip on charter to the Fish Commission of Oregon to scout ers off Oregon.

Prevailing weather conditions during the last 2 weeks of June have allowed sea surface temperatures to warm along the ire west coast. Frequent southwesterly winds offshore the Pacific Northwest and northern California have allowed temperatures warm rapidly, and anomalies that were 2° to 4°F below normal are now up to 2°F above normal. In addition, the 60°F isotherm 2 to 3 degrees north of its 1972 position between 123°W and 132°W.

Due to the much below normal discharge of the Columbia River, water temperatures offshore northern Oregon show no rked differences from those of surrounding areas. During the second half of June, temperatures in this region are frequently ve those of surrounding areas due to the presence of less dense Columbia River plume water.

Offshore central and southern California, surface temperatures are 1° to 2°F below normal inside 123°W, while temper- res are slightly above normal southward of San Diego and offshore northern Baja California.

According to information supplied by the Extended Forecast Division of the National Weather Service, sea level pressures e expected to be above normal over the eastern North Pacific and western U.S. throughout July. These conditions, coupled with pected above-normal temperatures over interior regions of the western states, should cause frequent periods of strong north- rthwesterly winds off the U.S. west coast. Although these conditions are favorable for creating thermal fronts, fishing efforts y be hampered by strong winds and rough seas.

y 2, 1973

Staff, Fishery-Oceanography Investigations
R. Michael Laurs, Leader

UNITED STATES DEPARTMENT OF COMMERCE
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FISHING INFORMATION
BULLETIN NO. 73-3

ALBACORE SEASON OFF TO SLOW START

Commercial and sport fishing in all areas along the coast were slow during the past 2 weeks. The first albacore caught in nearshore waters off southern California was on July 2 about 180 miles southwest of San Diego where water temperatures were 60°-61.5° F (15.6°-16.4° C). Only small catches have been made in very scattered fishing in this vicinity during the past 2 weeks. Scouting has been unsuccessful in many of the nearshore areas off southern and Baja California where traditionally albacore are caught early in the season. However, there are reports that a few albacore were caught on the July 14-15 weekend by boats in the vicinity of San Clemente Island. Small catches of albacore continued to be taken off Cape Blanco to Mendocino during the past 2 weeks. However, weather conditions have hampered fishing efforts. All eight of the American Fishermen's Research Foundation chartered boats which departed from San Diego have now completed their cruises. Since July 1 the group II boats worked an area between 30°-33°45'N and 125°30'W to San Diego. Water temperatures were 60°-64° F (15.6°-17.8° C) but only a few 19-30 pound albacore were caught between 30°-32° N, 120°-124° W in 60°-62.5° F (15.6°-16.9° C) water.

The AFRF charter which left from Astoria on June 17 returned to port on July 16. They worked from 40°-48°30'N and as far west as 131°45'W. Best fishing was off Cape Mendocino and Coos Bay, Oregon in 59°-62° F (15.0°-16.7° C) water. Albacore caught in this region averaged 11-14 pounds with a range of 10-28 pounds. Best scores were made on July 3-5 about 200 miles west of Cape Mendocino when the high catch was 122 fish. As the boats sailed from the Coos Bay area to cover the northern regions, catches dropped and no fish was caught from July 9-13. On July 14 one 26 pound albacore was caught about 60 miles west of Grays Harbor in 59° F (15° C) water. A commercial boat also caught one fish on July 15 in this area. Water temperatures were 54°-59° F (12.2°-15.0° C) out to 330 miles from the coast and as far north as Cape Flattery.

The jig boat on charter to the Fish Commission of Oregon, which left Astoria on July 1, completed its work on July 10. This boat covered the area off the Oregon coast out to about 127° W and inside of the AFRF charter boats. Only two fish were caught about 75 miles west of Cape Blanco on July 6.

The NMFS David Starr Jordan returned to port on July 6 after a 27-day cruise working in cooperation with the AFRF charter boats. On the way back to San Diego, the Jordan scouted the areas in the vicinity of San Juan and Fiberling seamounts without success.

As of July 16 there has been no agreement on the albacore price settlement.

Prevailing weather conditions during the July 1-15 period have decreased the rate of seasonal warming offshore the entire west coast. Frequent periods of strong north-northwesterly winds along the Oregon and California coasts reversed the warming trend present during the last 2 weeks of June, and temperature anomalies that were up to 2° F above normal are now 1°-2° F below normal in these regions.

In offshore areas, the position of the 60° F isotherm is approximately in the same position as it was at this time last year. However, inside 124° W it is 1°-2° farther south of its 1972 position.

Offshore southern California and northern Baja California, seasonal warming also slowed, causing temperature anomalies to be much below normal around the Channel Islands and near normal offshore Baja.

According to information supplied by the Long-range Prediction Group of the National Weather Service, sea level pressures are expected to remain above normal over the eastern North Pacific from mid-July through mid-August. These conditions, coupled with continued above-normal temperatures over interior regions of the western states, should cause frequent periods of strong north-northwesterly winds off the Oregon and California coasts. During these periods, fishing efforts, particularly by smaller vessels, may be hampered by unfavorable wind and sea conditions.

July 16, 1973

Staff, Fishery-Oceanography Investigations
R. Michael Laurs, Leader